Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A control apparatus for use with an on-vehicle generator provided with a stator winding and a field winding and driven to rotate by an on-vehicle engine, the control apparatus comprising:

a single power supply, which is directly connected to an output terminal of the generator, providing current to the field winding to excite the field winding;

a storage element chargeable and connected directly to the output terminal of the generator;

a switching circuit having a switching element configured to be turned on and off and to selectably and electrically connect or disconnect a current path between the field winding and the output terminal~~a power supply to provide the field winding with current~~; and

~~a storage element; and~~

a regeneration circuit ~~element~~ configured to provide, through the terminal, the storage element with current flowing through the field winding depending on magnetic energy preserved in the field winding when the switching element is turned off.

2. (Currently Amended) The control apparatus according to claim 1, wherein the switching element is placed in the switching circuit so that the current flowing through the field winding when the current ~~flowing through the field winding~~ is supplied to the storage element is the same in a current flowing direction as the current flowing through the field winding when the power supply provides the field winding with current.

3. (Currently Amended) The control apparatus according to claim 2, wherein the field winding has two terminals, the power supply has positive and negative terminals, and the storage element has positive and negative pole terminals; ~~wherein~~

the switching element ~~is provided with~~ includes a first switch placed, through the output terminal, to connect ~~to~~ one terminal of the field winding and the positive terminal of the power supply and a second switch placed to connect ~~to~~ the other terminal of the field winding and the negative terminal of the power supply; and

the regeneration ~~element is provided with~~ circuit includes a first diode placed to connect ~~to~~ the one terminal of the field winding and the negative pole terminal of the storage element and a second diode placed, through the output terminal, to connect to the other terminal of the field winding and the positive pole terminal of the storage element.

4. (Currently Amended) The control apparatus according to claim 2, wherein the field winding has two terminals, the power supply has positive and negative terminals, and the storage element has positive and negative pole terminals; wherein

the switching element ~~is provided with~~includes a first switch placed, through the output terminal, to connect ~~to~~ one terminal of the field winding and the positive terminal of the power supply and a second switch placed to connect ~~to~~ the other terminal of the field winding and the negative terminal of the power supply;

the regeneration ~~element is provided with~~ circuit includes a third switch placed to connect ~~to~~ the one terminal of the field winding and the negative pole terminal of the storage element and a fourth switch placed, through the output terminal, to connect ~~to~~ the other terminal of the field winding and the positive pole terminal of the storage element; and

an on/off control ~~element~~ unit configured to bring the third and fourth switches into an off-state when the first and second switches ~~is~~ are in an on-state and to bring the third and fourth switches into an on-state when the first and second switches ~~is~~ are in an off-state.

5. (Currently Amended) The control apparatus according to claim 4, wherein the on/off control unit is configured to turn off both of the third and fourth switches when the

current flowing through the field winding under the off-state of both of the first and second switches becomes zero.

6. (Currently Amended) The control apparatus according to claim 4, wherein the on/off control unit is configured to turn on and off both of the first and second switches at intervals of time less than 1/10 of a time constant of the field winding.

7. (Currently Amended) The control apparatus according to claim 1, wherein the field winding has two terminals, the power supply has positive and negative terminals, and the storage element has positive and negative pole terminals; wherein

the switching element ~~is provided with~~ includes a first switch placed, through the output terminal, to connect ~~to~~ one terminal of the field winding and the positive terminal of the power supply and a second switch placed to connect ~~to~~ the other terminal of the field winding and the negative terminal of the power supply; and

the regeneration ~~element is provided with~~ circuit includes a first diode placed to connect ~~to~~ the one terminal of the field winding and the negative pole terminal of the storage element and a second diode placed, through the output terminal, to connect ~~to~~ the other terminal of the field winding and the positive pole terminal of the storage element.

8. (Currently Amended) The control apparatus according to claim 1, wherein the field winding has two terminals, the power supply has positive and negative terminals, and the storage element has positive and negative pole terminals; wherein

the switching element ~~is provided with~~ includes a first switch placed, through the output terminal, to connect ~~to~~ one terminal of the field winding and the positive terminal of the power supply and a second switch placed to connect ~~to~~ the other terminal of the field winding and the negative terminal of the power supply

the regeneration ~~element is provided with~~ circuit includes a third switch placed to connect ~~to~~ the one terminal of the field winding and the negative pole terminal of the

storage element and a fourth switch placed, through the output terminal, to connect ~~to~~ the other terminal of the field winding and the positive pole terminal of the storage element; and

an on/off control ~~element~~ unit configured to bring the third and fourth switches into an off-state when each of the first and second switches ~~is~~ are in an on-state and to bring the third and fourth switches into an on-state when each of the first and second switches ~~is~~ are in an off-state.

9. (Currently Amended) The control apparatus according to claim 8, wherein the on/off control unit is configured to turn off both of the third and fourth switches when the current flowing through the field winding under the off-state of both of the first and second switches becomes zero.

10. (Currently Amended) The control apparatus according to claim 8, wherein the on/off control unit is configured to turn on and off both of the first and second switches at intervals of time less than 1/10 of a time constant of the field winding.

11. (Currently Amended) An on-vehicle power supply system comprising:

a control apparatus for use with an on-vehicle generator provided with a stator winding and a field winding and driven to rotate by an on-vehicle engine;

a single power supply, which is directly connected to an output terminal of the generator, providing current to the field winding to excite the field winding, and

a chargeable storage element connected directly to the output terminal of the generator and electrically connected to the power supply in ~~parallel,~~ parallel;

wherein the control apparatus comprises:

a switching circuit having a switching element configured to be turned on and off and to selectably and electrically connect or disconnect a current path between the field winding and the terminal;~~a power supply to provide the field winding with current;~~ and

~~a storage element; and~~

a regeneration circuit ~~element~~ configured to provide, through the terminal, the storage element with current flowing through the field winding depending on magnetic energy preserved in the field winding when the switching element is turned off.

12. (Currently Amended) The on-vehicle power supply system according to ~~claim 11,~~ claim 18, wherein the switching element is placed in the switching circuit so that the current flowing through the field winding when the current ~~flowing through the field winding~~ is supplied to the ~~storage element~~ battery is the same in a current flowing direction as the current flowing through the field winding when the ~~power supply~~ battery provides the field winding with the current.

13. (Currently Amended) The on-vehicle power supply system according to claim 12, wherein the field winding has two ~~terminals,~~ terminals and the battery ~~power supply~~ has positive and negative terminals~~, and the storage element has positive and negative pole terminals~~; wherein

the switching element ~~is provided with~~ includes a first switch placed, through the output terminal, to connect ~~to~~ one terminal of the field winding and the positive terminal of the ~~power supply~~ battery and a second switch placed to connect ~~to~~ the other terminal of the field winding and the negative terminal of the ~~power supply~~ battery; and

the regeneration ~~element is provided with~~ circuit includes a first diode placed to connect ~~to~~ the one terminal of the field winding and the negative ~~pole~~ terminal of the ~~storage element~~ battery and a second diode placed, through the output terminal, to connect ~~to~~ the other terminal of the field winding and the positive ~~pole~~ terminal of the ~~storage element~~ battery.

14. (Currently Amended) The on-vehicle power supply system according to claim 12, wherein the field winding has two ~~terminals,~~ terminals and the ~~power supply~~ battery has

positive and negative terminals~~, and the storage element has positive and negative pole terminals~~; wherein

the switching element ~~is provided with~~ includes a first switch placed, through the output terminal, to connect ~~to~~ one terminal of the field winding and the positive terminal of the ~~power supply~~ battery and a second switch placed to connect ~~to~~ the other terminal of the field winding and the negative terminal of the ~~power supply~~battery;

the regeneration ~~element is provided with~~ circuit includes a third switch placed to connect ~~to~~ the one terminal of the field winding and the negative pole terminal of the ~~storage element~~ battery and a fourth switch placed, through the output terminal, to connect ~~to~~ the other terminal of the field winding and the positive pole terminal of the ~~storage element~~ battery; and

an on/off control ~~element~~ unit configured to bring the third and fourth switches into an off-state when each of the first and second switches ~~is~~ are in an on-state and to bring the third and fourth switches into an on-state when each of the first and second switches ~~is~~ are in an off-state.

15. (Currently Amended) The on-vehicle power supply system according to claim 14, wherein the on/off control unit is configured to turn off both of the third and fourth switches when the current flowing through the field winding under the off-state of both of the first and second switches becomes zero.

16. (Currently Amended) The control apparatus according to claim 14, wherein the on/off control unit is configured to turn on and off both of the first and second switches at intervals of time less than 1/10 of a time constant of the field winding.

17. (New) The control apparatus according to claim 1, wherein both of the power supply and the storage element are formed by a single battery of which positive terminal is connected to the output terminal of the generator.

18. (New) A control apparatus for use with an on-vehicle generator provided with a stator winding and a field winding and driven to rotate by an on-vehicle engine, the control apparatus comprising:

a single battery serving as both of a power supply providing current to the field winding to excite thereof and a storage element that is chargeable, the battery being connected directly to an output terminal of the generator;

a switching circuit having a switching element configured to be turned on and off and to selectably and electrically connect or disconnect a current path between the field winding and the terminal connected to the battery; and

a regeneration circuit configured to provide, through the terminal, the storage element with current flowing through the field winding depending on magnetic energy preserved in the field winding when the switching element is turned off.